Ways to Improve Your Child's Functional Vision

by

Barbara Myers

INTRODUCTION

The following packet contains several activities that will help your child use the vision he has to its fullest potential. The suggested ways to improve your child's functional vision are divided into nine catagories. These catagories include: awareness of visual stimuli; fixation, convergence and shift of gaze; tracking; near distance; scanning; peripheral field vision; eye-hand integration; form and color perception; and visual perceptual skills.

Not all of the activities included will be appropriate for your child. We encourage you to ask your child's teacher to assist you in choosing the activities that will most help your child improve the use of his vision.

The materials suggested may be substituted with anything around the house that your child is interested in and which he may be motivated to look at. At the back of the pamphlet is a list of materials that can be used for the training activities. A bibliography is also provided on the last page which lists the sources of the activities presented.

Ways to Improve Your Child's Functional Vision

I. Awareness of Visual Stimuli

1. Use a broom handle, dowel or elastic cord, and on it hang brightly colored noise-making objects such as aluminum pie plates, jingle bells, clear plastic bottle with bells or brightly colored beads on it. Position the mobile so that objects are 8" to 12" from the child's eyes. Alternate the side of the crib upon which the objects are hung. These can also be hung on a movable mobile. Mobiles that move with a music box attached are also good to use. Or suspend a string of small Christmas tree lights that blink off and on over the child's crib. The goal is to get the child to be visually aware of objects close to him.

2. This activity can be used with the child who does not visually respond to light. In this activity a light is coupled with a sound-producing object such as a tambourine or some other familiar sound such as squeeze toy or musical box. The objective is to get the child to consistently respond to light coupled with some familiar sound and then gradually eliminating the soundmaker.

   Place the child on a mat in a sitting position in a dark room. Shine a penlight or flashlight in front of the child's eyes while shaking tamborine or some other familiar sound maker. If the child grabs the tambourine and doesn't shake it, or throws it away, remove the light. When the child does begin to reach for, grab and shake the tambourine then parent may begin intermittent trials of presenting the light alone and then light and tambourine The goal is to get the child to look at the light without the sound. This is done by gradual elimination of the sound-producing object.

3. Using a red light or orange pumpkin flashlight, shine the light directly in front of and 8"-12" away from child's face. If necessary blink the light several times to get child's attention. Turn the child's head in the direction of light, if necessary. Also verbilization may be needed such as "Look" or "Where's that light?" or "There it is!" when light is turned off and turned back on. Guide the light from left to right across the midline of child's face. Next take the light above his face, coming down below his face level (8"-12" away from child's face-midline). The goal is to get the child to look in the direction of the light wherever it is.

4. Place child in a sitting position, over a wedge in a prone position or etc. Set into motion toys such as slinky, wind up action toy, weebles or other toys approximately level with child's chest and to one side. Verbally prompt him to look. If he doesn't, physically guide him to do so. The goal is to get the child to look at various toys which are placed to his side.

5. Set in motion toys within three feet around the child. Physically guide the child to turn and reach for one of the toys. Encourage the child to "catch them" with his hands. The objective is to have the child "reach for" and "catch" a toy that is moving within his visual field.

II. Fixation, Convergence, Shift of Gaze

1. Using a brightly colored rattle, shake it about 8"-12" from child's face. Pause, then shake it again. A penlight may also be used blinking off and on and moving from side to side. The objective is to have the child look at the object for at least 3 seconds. Time limits should gradually be lengthened.

2. Using a finger puppet such as a Big Bird Puppet, attract the child's attention, then slowly move it in toward child's nose. You may need to secure child's head by holding his chin. Bring the finger puppet in 4" to 6" from the nose. Stop and start again from 12" distance. Watch for the child's eyes to follow the object as it gets closer to his nose. The objective is to get the child to look at the puppet until it is four to six inches from his/her eyes.

3. Use two toys from 2" to 4" in size and identical in interest appeal such as spinner toys or action toys that move up and down. Hold the two toys ten inches from child's eyes with about six inches between the two toys. Attract child to one toy and let him look at it for several seconds, then set the other toy in motion and let child look at it. Repeat several times. The objective is for the child to shift his eyes from one toy to the other several times in a few seconds. Use a variety of object sets to maintain the child's interest level. As child becomes adept at this activity, gradually increase the space between the two toys to 8", 10" and 12" apart.

III. Tracking

1. Use a mechanical spinning toy, a squeak toy or a brightly colored rattle. Set the toy in motion to attract the child's attention about 8" to 12" from the child's eyes. Move the toy slowly from the child's left side to his right side. Guide the child's head if necessary. The objective is to have the child visually track

from left to right using sound to attract his attention. Later, this activity can be done with toys such as finger puppets that do not make sound. Use a variety of brightly colored objects for this activity.

2. Dangle circular rattles or textured squeak toys from ribbons or strings. Move the object in a circular motion above the child's eyes. Or use a penlight with a puppet such as Big Bird Puppet placing the penlight inside the puppet, and move the light in a circular motion 12" from the child's face and the circle should be about 12" in diameter. The objective is to have the child follow the objects with his eyes in a circular motion.

3. With the child in a seated position, suspend a favorite toy from a nylon string to the child's eye level. Move the toy from right to left and vice versa as he looks. Check for eye contact as he looks. If there is no eye contact stop and wait until eye contact is established. Repeat the activity, and position the child lying over a roll or bolster, propped on the palms of his hands. He must pull his head up to look from left to right and right to left.

4. With the child seated place a penlight about 12" from his face. Have him establish eye contact with the light. Slowly move the light up above his head, then bring the light down below his chin. Take the light in an arc (or half circle) around his face and a arc below his face. Make sure child is looking at light all this time. Repeat the activity, placing the child over a roll or bolster. The child must move his head up and down to follow vertically. Notice if he moves his head or eyes when following the light. If he doesn't follow the light, begin by guiding the head movement and assist him in doing so. The objective of this activity is to get the child to follow objects with his eyes from left to right and from above his head to below his chin.

5. Use nerf balls, various sizes of balls, wind-up walking toys, friction toys or cars and trucks of various sizes for this activity. Put the child in a flexion box if he cannot sit independently or over a wedge on his tummy. Place the child that can sit in front of a low table. Put a toy at the extreme left edge of the table. Attract the child's attention by tapping the toy on the table, or turn the child's head in the direction of the toy. Set the toy in motion so that it travels to the other side of the table. Do this several times using a variety of toys. The objective is to have the child visually follow the toy across the table with ease. If the toy rolls off the edge of the table say " Whereddid it go?" or "Find it." A child may also follow cookies, candy or their favorite cup across the table.

4. Place child in a sitting position, over a wedge in a prone position or etc. Set into motion toys such as slinky, wind up action toy, weebles or other toys approximately level with child's chest and to one side. Verbally prompt him to look. If he doesn't, physically guide him to do so. The goal is to get the child to look at various toys which are placed to his side.

5. Set in motion toys within three feet around the child. Physically guide the child to turn and reach for one of the toys. Encourage the child to "catch them" with his hands. The objective is to have the child "reach for" and "catch" a toy that is moving within his visual field.

II. Fixation, Convergence, Shift of Gaze

1. Using a brightly colored rattle, shake it about 8"-12" from child's face. Pause, then shake it again. A penlight may also be used blinking off and on and moving from side to side. The objective is to have the child look at the object for at least 3 seconds. Time limits should gradually be lengthened.

2. Using a finger puppet such as a Big Bird Puppet, attract the child's attention, then slowly move it in toward child's nose. You may need to secure child's head by holding his chin. Bring the finger puppet in 4" to 6" from the nose. Stop and start again from 12" distance. Watch for the child's eyes to follow the object as it gets closer to his nose. The objective is to get the child to look at the puppet until it is four to six inches from his/her eyes.

3. Use two toys from 2" to 4" in size and identical in interest appeal such as spinner toys or action toys that move up and down. Hold the two toys ten inches from child's eyes with about six inches between the two toys. Attract child to one toy and let him look at it for several seconds, then set the other toy in motion and let child look at it. Repeat several times. The objective is for the child to shift his eyes from one toy to the other several times in a few seconds. Use a variety of object sets to maintain the child's interest level. As child becomes adept at this activity, gradually increase the space between the two toys to 8", 10" and 12" apart.

III. Tracking

1. Use a mechanical spinning toy, a squeak toy or a brightly colored rattle. Set the toy in motion to attract the child's attention about 8" to 12" from the child's eyes. Move the toy slowly from the child's left side to his right side. Guide the child's head if necessary. The objective is to have the child visually track

IV. Near Distance

1. While the child is in the bath tub place brightly colored toys such as boats that float or animals such as ducks, fish, and toys that make a noise. Talk to the child about the different toys such as "See the duck" "Get the boat", etc. Try to get the child to look at these objects and hand them to you, if possible. The goal is to get the child to visually locate objects around him within a distance of a foot or two.

2. When child is sitting in high chair pour a small amount of dry Kool-aid or jello in clusters around on a large sheet of clean wax paper. Moisten the child's finger and guide him to look at and touch the substance with his finger than bring his finger to his mouth so he can taste it. Also, while sitting in high chair, place the cup in various locations around his plate so that he must look for it each time, or place bits of cookie, cereal or anything he likes to eat around him so that he must look for it in order to eat it. The goal is to get the child to visually locate food or objects containing food within 12" from him.

3. Place toys of various sizes around the child. Notice if the child attempts to reach for or follow with eyes any of the toys. Also observe if the child reaches for toys only on one side. Switch toys to other side if this happens to see if he prefers toys on that side or if he just observes toys on one side. The child may see objects better on one side than on the other.

4. Put the child in a chair or secure him to a prone board. Use materials such as flourescent and silver pinwheel, crumpled alumnium foil or a favorite toy. As the child looks at the object you are holding, slowly lower it to the floor. Guide the child physically to move in order to follow the object with his eyes down to the floor. Release these objects on each side of the child. The objective is for the child to visually watch the object as it falls from one surface to another.

V. Scanning

1. Seat the child at a low table on a prone board or prone over a wedge, line up three noise-making toys on the table. Set the first one in motion, wait for the child to focus in on the toy, then set the next toy in motion and do this with each toy. Scramble the toys and repeat the activity until child loses interest.

2. Use the baby bottle, a colorful rattle or a spinner toy for this activity. Bring the bottle, rattle or toy up to where the child looks at it. Then slowly back away from child's midline and observe how far the child will follow the object. You may move

either to the left or right of the child for this activity also.

3. Place the child on the floor. Sit beside him and roll the toy ball from between his/her legs out and observe whether the child follows it visually. Try this activity on right side and left side of child also. You may need to prompt the child by saying "There goes the ball" or "Look at the red ball" or you may need to have a ball with a noise maker in it, such as bells.

4. Place the child on floor. Put objects that are an inch or less around him such as jacks, bells, weebles. See if he can locate and pick up these objects and hand them to you.

5. Use matching cards or simple matching pictures for this activity. Place the child near a low table. Spread a few of the cards out. Hand the child one picture and have him find the matching card. Use cards or pictures that do not have much detail. After this activity has been mastered then go to more detailed pictures for matching activities such as "Old Maid" or "Lotto" cards.

IV. Peripheral Field Vision

1. Use materials such as a brightly colored rattle, a squeak toy, an activated pinwheel, a blinking penlight or familiar objects such as juice, cup, cookies, spoon, etc. Place yourself behind the child. Quietly approach the child from behind his head to the left side and then right side at eye level and 6" away with the moving object. Turn the child's head toward the light, toy or object if he doesn't do so spontaneously. Cue him verbally to look if necessary. The goal is to make the child aware of lights and objects when placed in either his left or right visual fields.

VI. Eye-Hand Integration

1. The goal of activities 1a and 1b is to have the child's eyes become aware of his hands and the fact that the hands move.
   a. Using ice cubes (or something cold), a vibrator or a soft brush, tickle the childs hands, each separately as you hold them before his eyes. Tell him what you are doing.
   b. Put brightly colored red or yellow mittens on the child's hands. Attach bells to the fingers of the mittens.
   c. Weave bright pink, orange, red or yellow yarn through the childs fingers. Encourage him to try to remove the yarn.

2. Place a rattle or some small toy in child's hand. Help him hold it if necessary and place it in front of his eyes at different points to find out if he sees the toy. Count to three and remove the object and praise the child for holding the toy.

3. Use blocks, pop beads, clothes pins, spoon or other with a container such as coffee can or large plastic pitcher. Scatter blocks, pop beads, clothes pins, or whatever else you may have and show the child how to put the blocks etc. in the container. Physically assist the child if necessary and verbalize what is being done. After this activity has been mastered the same procedure can be done using smaller objects such as M&M's, small jingle bells, cereal, and jacks that can be put into a narrow-necked bottle or container.

4. Other good activities are stringing large beads, using wooden spoons, or putting rings on a cone or a large dowel.

5. Use colored shapes, cut-out pictures, numbers or fish shapes, a rod, paper clip, magnet. Place pictures or shapes on the floor. Attach paper clips to them. Attach a string and magnet to the rod. The child holds the stick and is told to go fishing. the child works the fishing rod until he can catch a "fish". There is a toy available in which a fishing rod and small fish of different colors are used. This game can be found in some toy departments.

VIII. Form and Color Perception

1. Use bright colors in the child's room for color stimulation. Hang colorful objects near child's crib or wherever child is so that he may be able to see them. Different colored balloons, brightly patterned wall paper or brightly painted furniture may be visually stimulating.

2. When talking to the baby or child verbalize about the colors around such as "Here is your red rattle","Do you want a drink from your green cup?", or "Here is the red truck", etc. Verbal on anything around that has color.

3. When buying puzzles for the child; start out with the simplest one such as a two piece puzzle of a duck and a fish form. Then add a three-piece form such as circle, square, triangle and gradually add more difficult forms. Playskool has many puzzles available for different developmental levels.

4. Use colored blocks, different sizes and shapes or large beads for this activity. The mother and child each place a colored block in their hands. Each opens the hand and let the child decide whether the blocks are the same or different in size and shape.

5. Use a pegboard, four colors of pegs, five of each color for this activity. Put a peg of each color side by side in the peg bar

Show the child how to match other pegs of same color below their models. Have the child complete the match. "The Lite Brite Toy" is very good for this activity and is found in many toy departmen stores. (Call around first if you decide to use this toy) Paren enjoy this activity very much!

IV. Visual Perceptual Skills

1. Cover a favorite toy with a cloth so that a part of it is exposed Observe if child visually recognizes the toy. Gradually remove the cloth until child does recognize what it is.

2. Put several cups, spoons, forks, etc. in a row. If using cups turn two upside down. See if child can reverse the ones that are upside down and do similar activities using other articles.

3. Have the child stack empty milk cartons, cereal boxes, shoe boxes or building blocks from Playskool or Ideal Co.

4. Have the child sort objects by size beginning with big and little proceeding to three different sizes.

Suggested Materials and Toys

1. Pet squeak toys.
2. Homemade mobile-sound and texture objects on a dowel or elastic cord strung across crib within reach and blinking Christmas tree lights.
3. Penlight, flashlight or novelty light (orange pumpkin flashlight).
4. Tambourine or other musical instrument.
5. Wind-up action toys.
6. Brightly colored rattles, weebles-one inch egg shaped, and two toned slinky.
7. Finger puppets, example - Big Bird.
8. Two toys identical in size 2"-4" and identical in interest appeal - Spinner toys or action toys may be used.
9. Ribbon, strings, yarn or nylon string.
10. Nerf balls and various sizes of balls.
11. Bathtub toys - floating boats, rubber ducky, etc.
12. Kool-aid, jello, wax paper.
13. Cookies, M&M's, cereal.
14. Solver and flourscent pinwheel
15. Simple matching picture or cards such as "Old Maid" and "Lotto".
16. A vibrator or soft brush.
17. Brightly colored red or yellow mittens with bells attached to the fingers.
18. Bright pink, orange, red or yellow yarn.
19. Colored blocks, popbeads, clothespins and a coffee can.
20. Small plastic bottle - with jacks or jingle bells.
21. Large stringing beads or wooden spools.
22. Ring stack on a cone.
23. Colored shapes, fish shapes, a rod, paperclips and magnet.
24. Bright colored balloons.
25. Playskool puzzles.
26. Lite Brite toy.
27. Cups, spoons, forks.
28. Empty milk cartons, cereal boxes, shoe boxes or other type boxes for stacking.
29. Playskool building blocks.

Note: Most of the toys listed above can be purchased at dime stores, drug-stores, department stores (in the toy section), or toy stores.

Bibliography

Berstein, G. Integration of Vision Stimulation in the Classroom, Individual Programming. Education of the Visually Handicapped, Vol. XI, No.1, Spring 1979, pp. 14-18.

Berstein, G. Integration of Vision Stimulation in the Classroom - Group Programming Education of the Visually Handicapped, Vol. XI, No.2 Summer, 1979, pp. 39-48

Langley, M. Functional Vision Inventory for the Multiply and Severely Handicapped Grant No. 300-75-307 with U.S. Office of Education, Department of Health, Education and Welfare, pp. 82-118.